



Introduction to rocks and minerals : What good are rocks?

This trunk contains a variety of materials and lessons for use when teaching about the common uses of rocks and minerals. This introductory section provides materials to help students learn and understand how rocks and minerals impact our everyday lives. Interspersed are references to more specific lessons and use of the visual aids and resources provided. One valuable resource included is a PowerPoint Presentation that can be used simultaneously while teaching this module. We suggest you read through this entire section before presenting it to become familiar with the content of lessons and places where additional resources are useful.

Grade Level: 4th –8th

Objectives:

- Understanding the basic composition and occurrence of common rocks and minerals
- Identification of rocks, minerals and ores
- Comprehending the various uses and products we glean from rocks and minerals
- Distinguishing between the building blocks of naturally occurring compounds; i.e. elements, minerals and rocks
- Generating a common household product using simple mineral materials

Arizona State Standards:

- **6SC-E3. Describe the composition (including the formation of minerals, rocks and soil) and the structure of the earth**

Time needed: 2-5 class periods

Lessons:

- What good are rocks? including PowerPoint Presentation
- Rock and mineral word search
- Mineral scavenger hunt
- Matching
- Where the sidewalk begins
- Making toothpaste

Visuals:

- The rock cycle
- How rocks are classified
- Industrial minerals of the U.S.
- Rare Earth Elements – Critical Resources for High Technology

Resources:

- Collection of rock and mineral samples and associated products
- Fossils, Rocks and Time (USGS pamphlet)
- Collecting Rocks (USGS pamphlet)
- The Amazing Story of Gold
- How gold is produced
- Guidebook to rocks and minerals

Posters:

- The Wonder of Crystals
- The Wonder of Minerals
- Switched on Mining
- Mining at play
- Major industrial rock and mineral producing areas

Videos:

- Gifts from the Earth

Vocabulary:

Mineral, crystal, rock cycle, crust, mantle, core, ore deposits, petroleum, mining, manufacturing,

References and Additional Resources:

- General USGS education site:
<http://www.usgs.gov/education/>
- General rocks and minerals:
<http://wrgis.wr.usgs.gov/docs/parks/rxmin/rock.html/>
- <http://wrgis.wr.usgs.gov/docs/parks/noca/nocageol2.html>
- Collecting rocks:

- http://interactive2.usgs.gov/learningweb/explorer/topic_rocks.htm
- Building stones of our nation's capitol:
- <http://pubs.usgs.gov/gip/stones/index.html>